

**PI3WVR41310**

**13.5Gbps DisplayPort 2.1 (UHBR13.5)/HDMI 2.1 3:1 Mux/1:3 DeMux**

**Description**

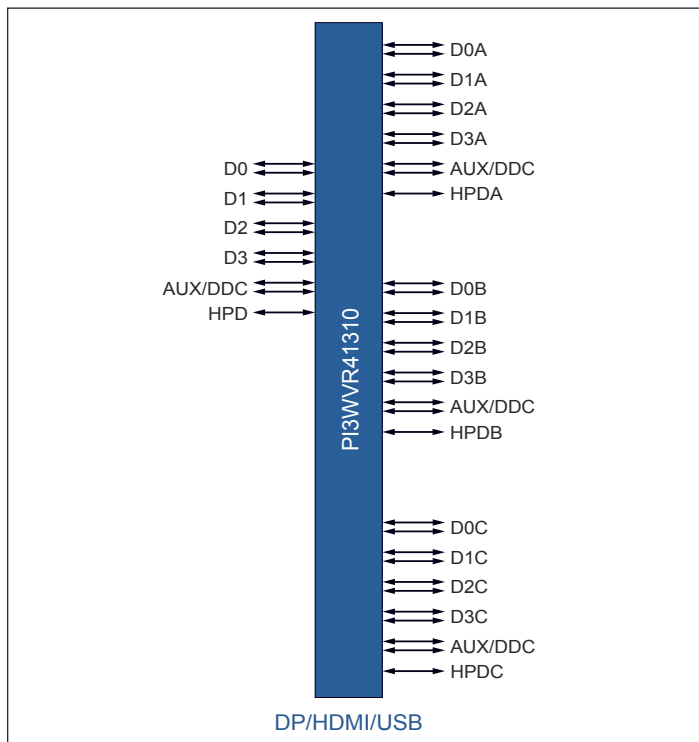
The DIODES PI3WVR41310 is a multi-standard 4-lane 3:1 Mux/1:3 DeMux video switch with wide voltage range capability. It supports DisplayPort 2.1 (UHBR13.5), HDMI 2.1, and emerging and proprietary standards.

The PI3WVR41310 can pass high-speed signals up to 1.2V peak-to-peak differential, with a common-mode voltage from 0 to VDD for TMDS signal.

The wide voltage range allows DC-coupled multi-standard operation. Eliminating AC coupling capacitors saves board space and improves signal integrity for dense PCB design.

In addition to four high-speed lanes, the PI3WVR41310 also switches the DDC/AUX and HPD signals using the DDC/AUX and HPD channel Mux/DeMux.

**Simplified Use Cases**



**Features**

- DisplayPort 2.1 (UHBR13.5), HDMI 2.1 Electrical Standard Compatible
- 4-Lane, 3:1 Mux and 1:3 DeMux Data Rate Up to 13.5Gbps Cover DisplayPort RBR, HBR, HBR2, HBR3, UHBR10, UHBR13.5 and HDMI 1.4/2.0/2.1
- Supports DDC/AUX with HPD Channel 3:1 Mux/ 1:3 DeMux
- -1.8dB Insertion Loss for High-Speed Channels @ 6.75GHz
- Return Loss for High-Speed Channels @ 6.75GHz: -15dB
- Low Channel-to-Channel Crosstalk for High-Speed Channels: -38dB @ 6.75GHz
- Low Off-Isolation for High-Speed Channels: -28dB @ 6.75GHz
- Low Bit-to-Bit Skew: 5ps Typical (between '+' and '-' bits)
- VDD Operating Range: 3.3V +/-10%
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)
- For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](https://www.diodes.com/quality/product-definitions/) or your local Diodes representative.
- Packaging (Pb-free & Green):
  - 52-pin, TQFN (ZL), 3.5 x 9mm, 0.4mm pitch

**Application(s)**

- Commercial Displays
- Gaming Monitors
- Docking
- KVMs
- Video Matrix
- Embedded Systems

**Ordering Information**

Ordering Code	Package Code	Package Description
PI3WVR41310ZLEX	ZL	52-Pin, 3.5 x 9mm (TQFN)

- Notes:**
- E = Pb-free and Green
  - X suffix = Tape/Reel

- Notes:**
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
  2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
  3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.